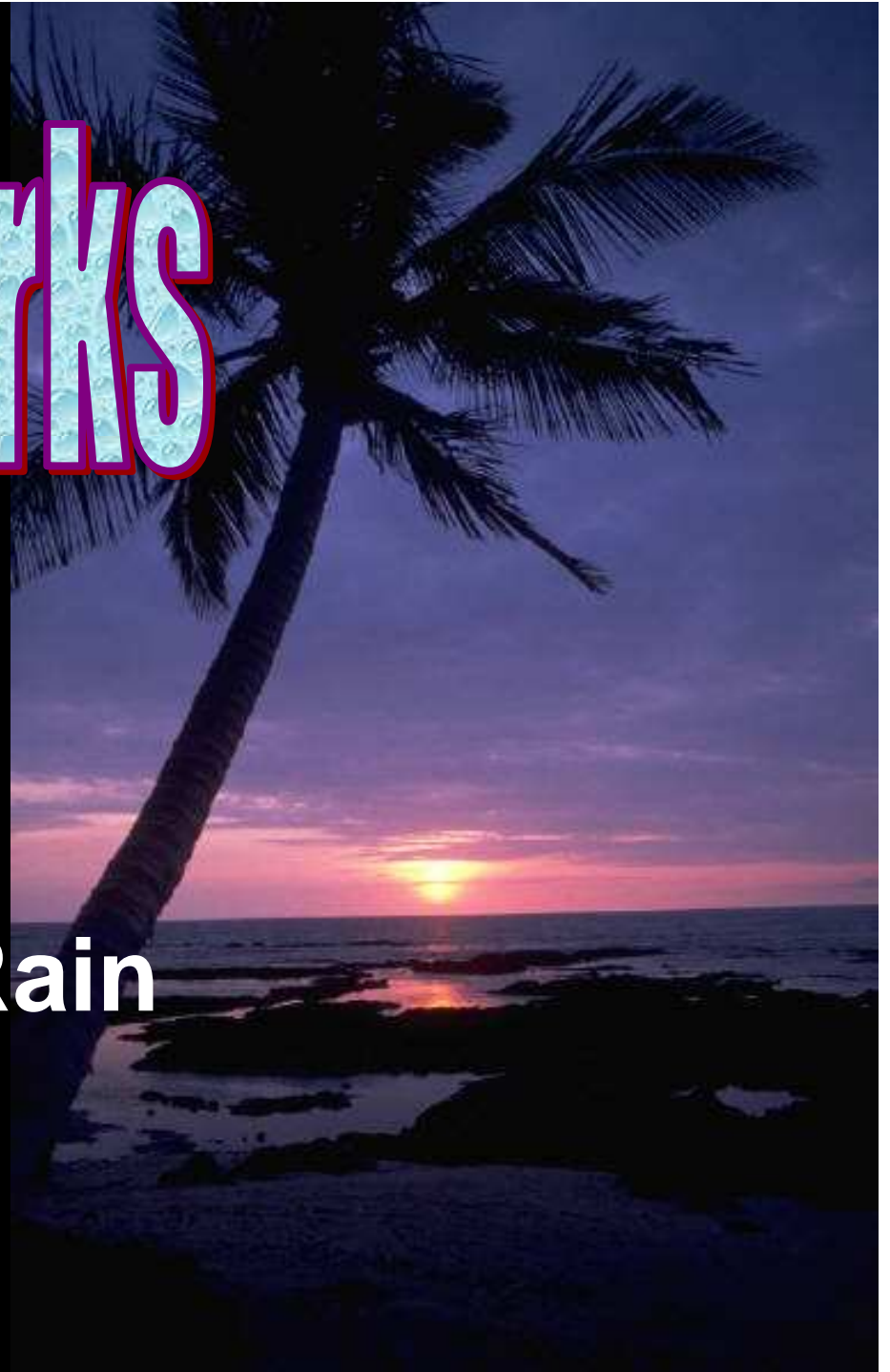




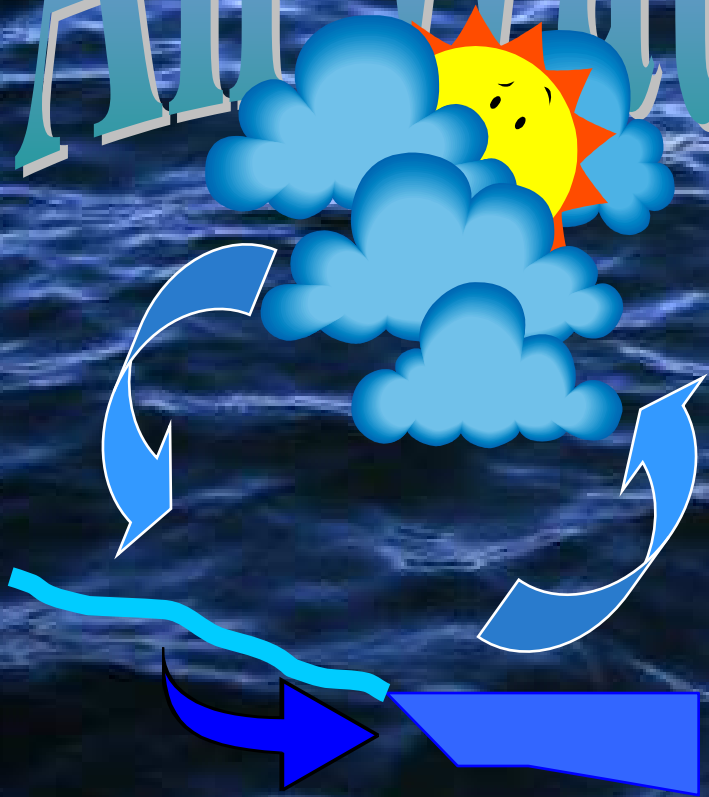
Water Reuse Florida Style

Reuse Works

**Even with
55 inches of Rain**



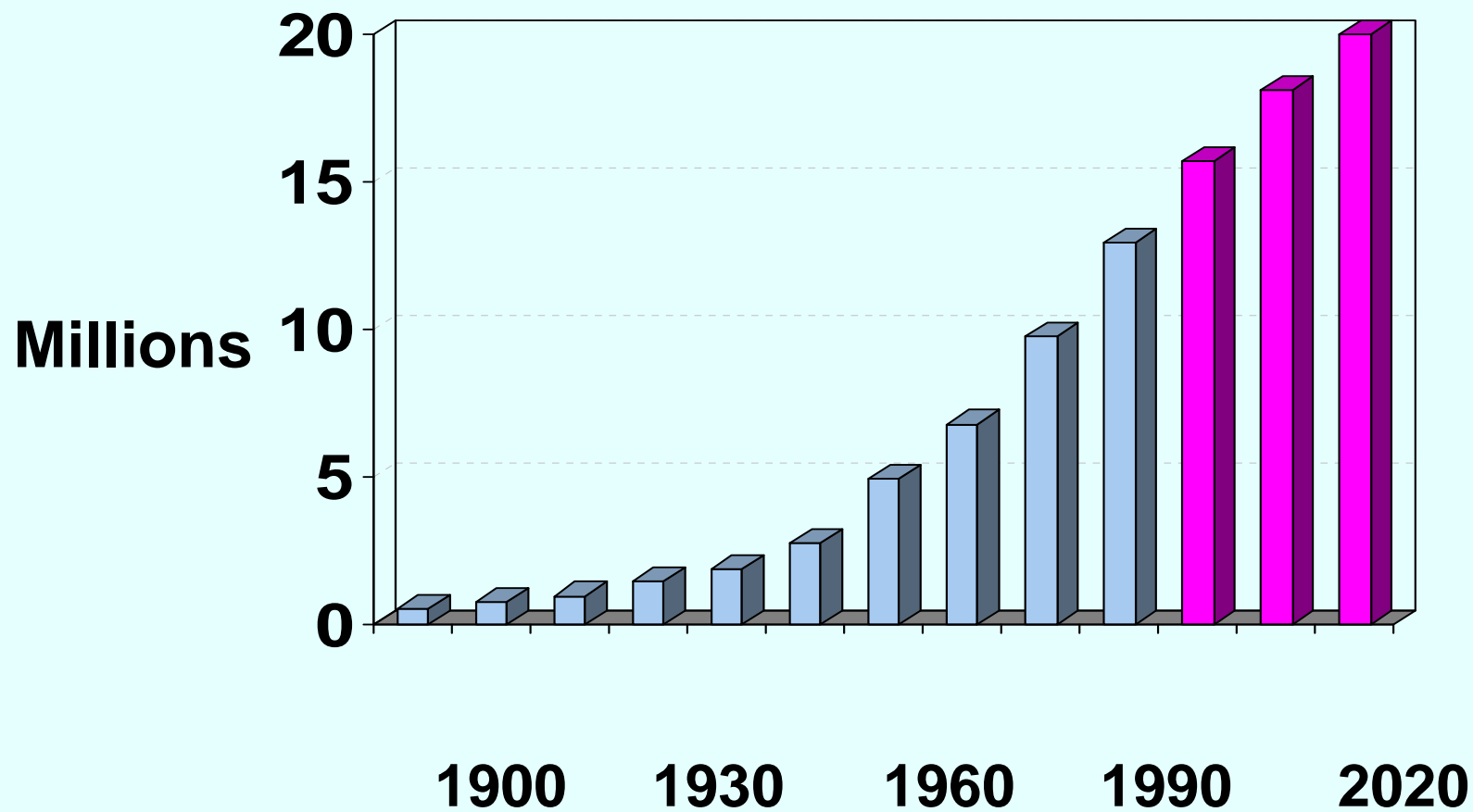
All Water is Reused



Water is Water

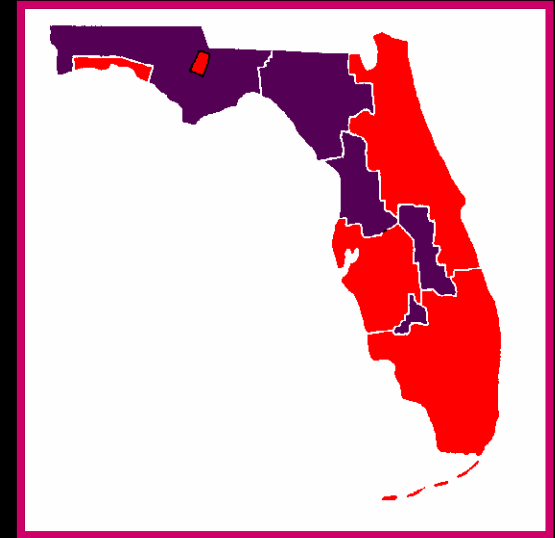
- Back to Hydrologic Cycle
- Will be Reused
- Let's *“Use it Again”*

Population Growth



Use it Again, America!

Florida



- 4 WMDs Identify
“Water Resource Caution Areas”
- Tampa Bay Area
 - ◆ No More Traditional Water
 - ◆ Desalination
 - ◆ Tampa’s Effluent

Use it Again, America!

Why Reuse?

- **Wastewater Management**
- **Water Resources**
 - ◆ **Conservation**
 - ◆ **Recharge**
- **Growth Pressure**



Reuse Timeline

Age of
Expansion

1985

2003

Dark Ages

Age of
Enlightenment

Use it Again, America!

State Objectives

**To encourage and promote
water conservation and
reuse of reclaimed water.**

373.250, F.S.

403.064, F.S.

Use it Again, America!

Further...

Reuse is a critical component of meeting the state's existing and future water supply needs while sustaining natural systems.

403.064(1), F.S.

Use it Again, America!

Water Reuse Program

Mandatory Reuse Rules
Coordination Feasibility Studies

Discourage Disposal Partnerships
Info Materials Proactive Agency

2006 Recognition



Use it Again, America!

Must Change “Mindsets”



- Public – A “Resource”
- Utilities – “Water Supply” Business
- Regulators – Say “Yes” to Reuse

Use it Again, America!

Proactive Agency

Comprehensive Rules Satellite Facilities

ASR Supplemental Water Supplies

Concentrate Blending Minimize Constraints

Backup Discharges Golf Course Lakes

Facilitate the Permitting of Quality Water Reuse Projects

Use it Again, America!

Use Reclaimed Water in Lieu of Other Waters

Use it Again, America!

Reuse Program

Protect
Environment

Protect
Public Health

DEP - DOH Partnership



Use it Again, America!

Reuse Coordinating Committee

DEP

Water Management Districts

Dept. of Health

Other Agencies

Use it Again, America!

Chapter 62-610, F.A.C.

Rules

Detailed & Comprehensive

on Applicants Rules as Constraints on DEEP

Alon, Agur, Amos

Chapter 62-610, F.A.C.

- I. General**
- II. Agricultural Reuse: Non-Edible Crops**
- III. Urban Reuse & Edible Crops**
- IV. Rapid-Rate Systems**
- V. Ground Water Recharge & Indirect Potable**
- VI. Overland Flow**
- VII. Industrial Uses**
- VIII. Permitting**

Use it Again, America!

Part III

- **Public Access, Residential, Edible Crops, Urban Uses**
- **Secondary Treatment**
- **Filters & Chemical Feed**
- **High-Level Disinfection**
- **Other Controls**



Use it Again, America!

High-Level Disinfection

- **Filtration**
 - ◆ **TSS < 5.0 mg/L**
- **Fecal Coliforms**
 - ◆ **75 % < Detection**
 - ◆ **Max. < 25 / 100 mL**
- **Cl₂ Residual > 1.0 mg/L**

Use it Again, America!

Operating Protocol

- Continuous Monitoring
 - ◆ Turbidity
 - ◆ Chlorine Residual
- Real Time Control
- If “Setpoints” Violated:
 - ◆ Divert to Reject Storage
- Only “Good” Water Goes to Reuse

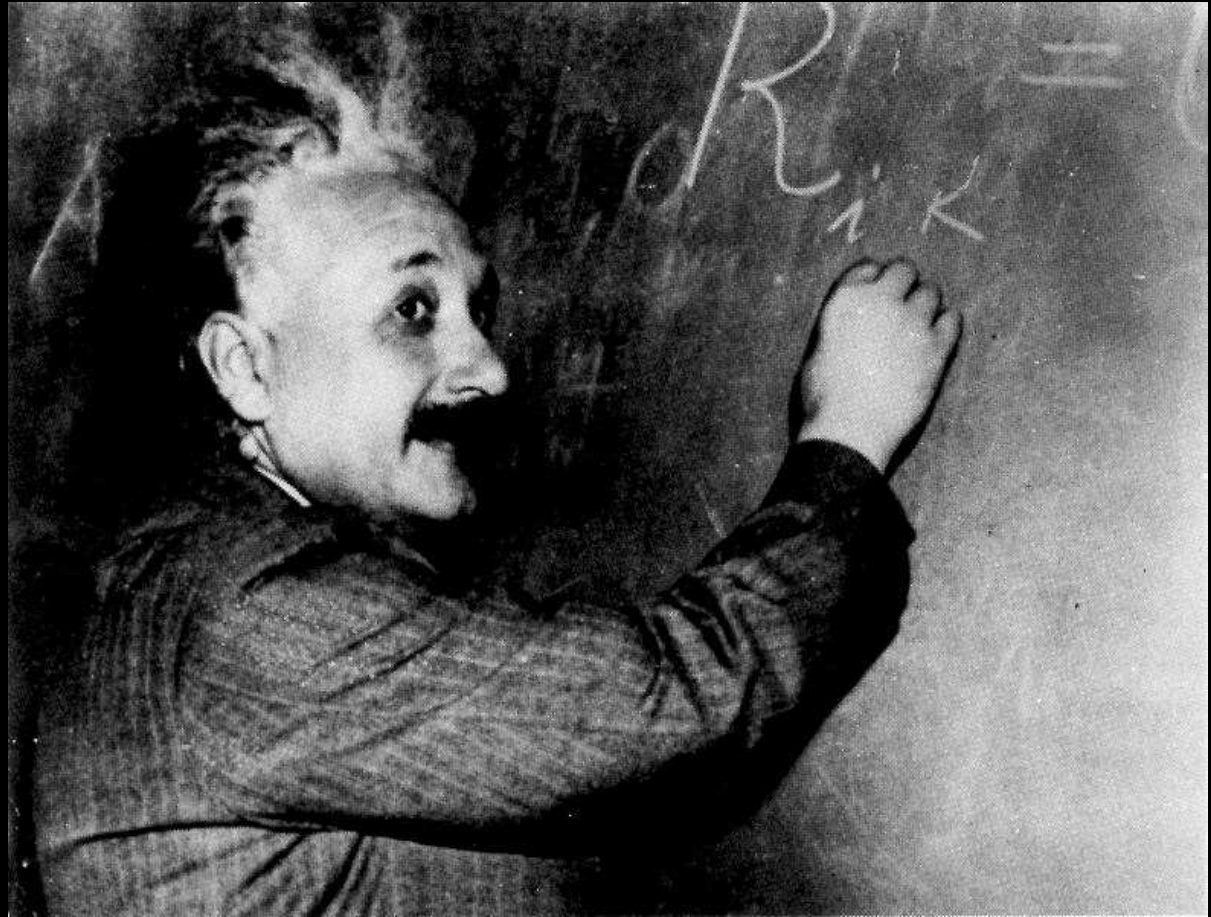


Use it Again, America!

Produce Quality Water

- Use as a “Water Supply”
- Very Few User Controls
- Virtually No Setback Distances

Use it Again, America!



It isn't rocket science!

It Works!!!

- Reclaimed Water
 - ◆ High-Quality
 - ◆ Safely
 - ◆ Reliably
- Conserve Water
- Augment Water Resources



Use it Again, America!

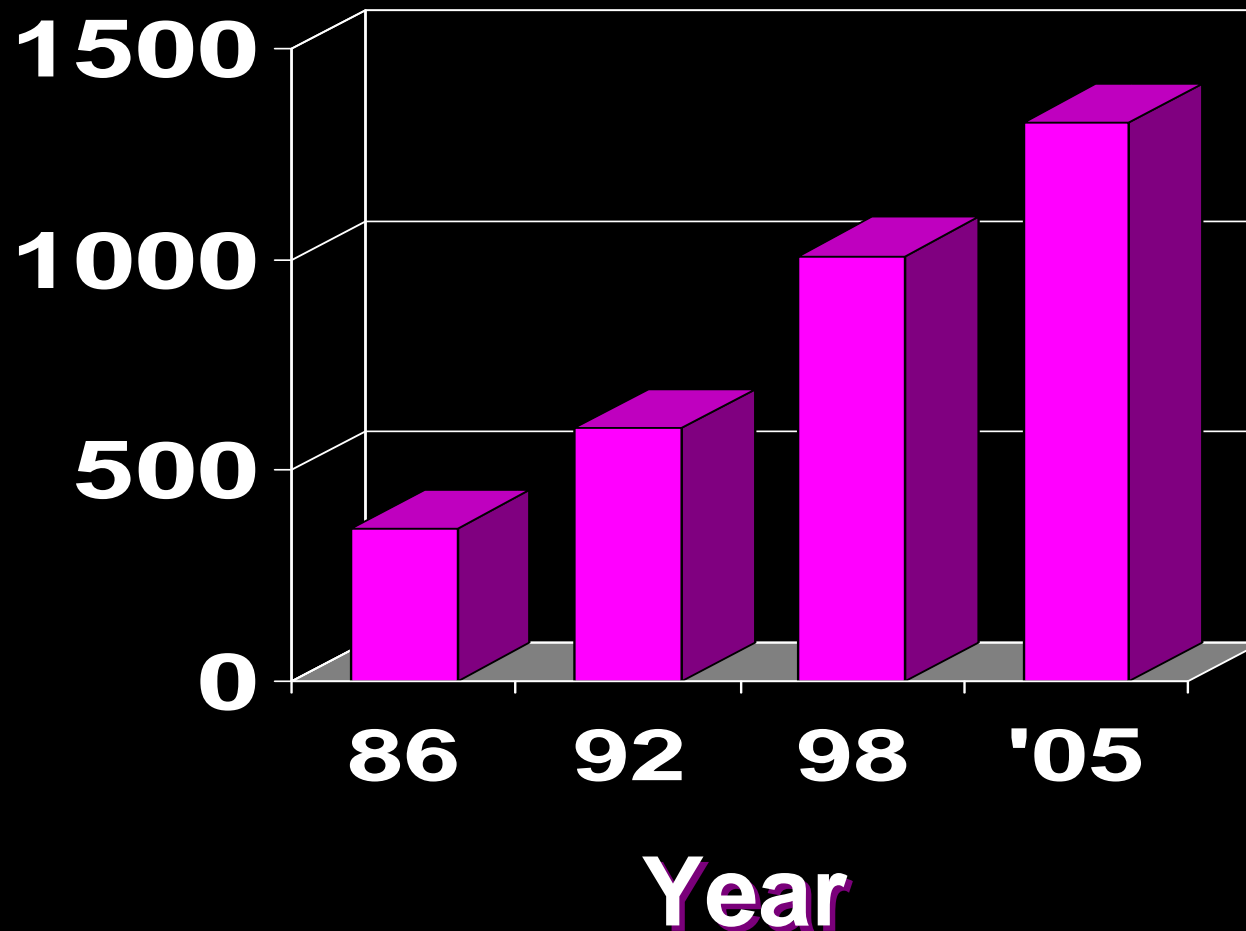
Experience



Where are we?

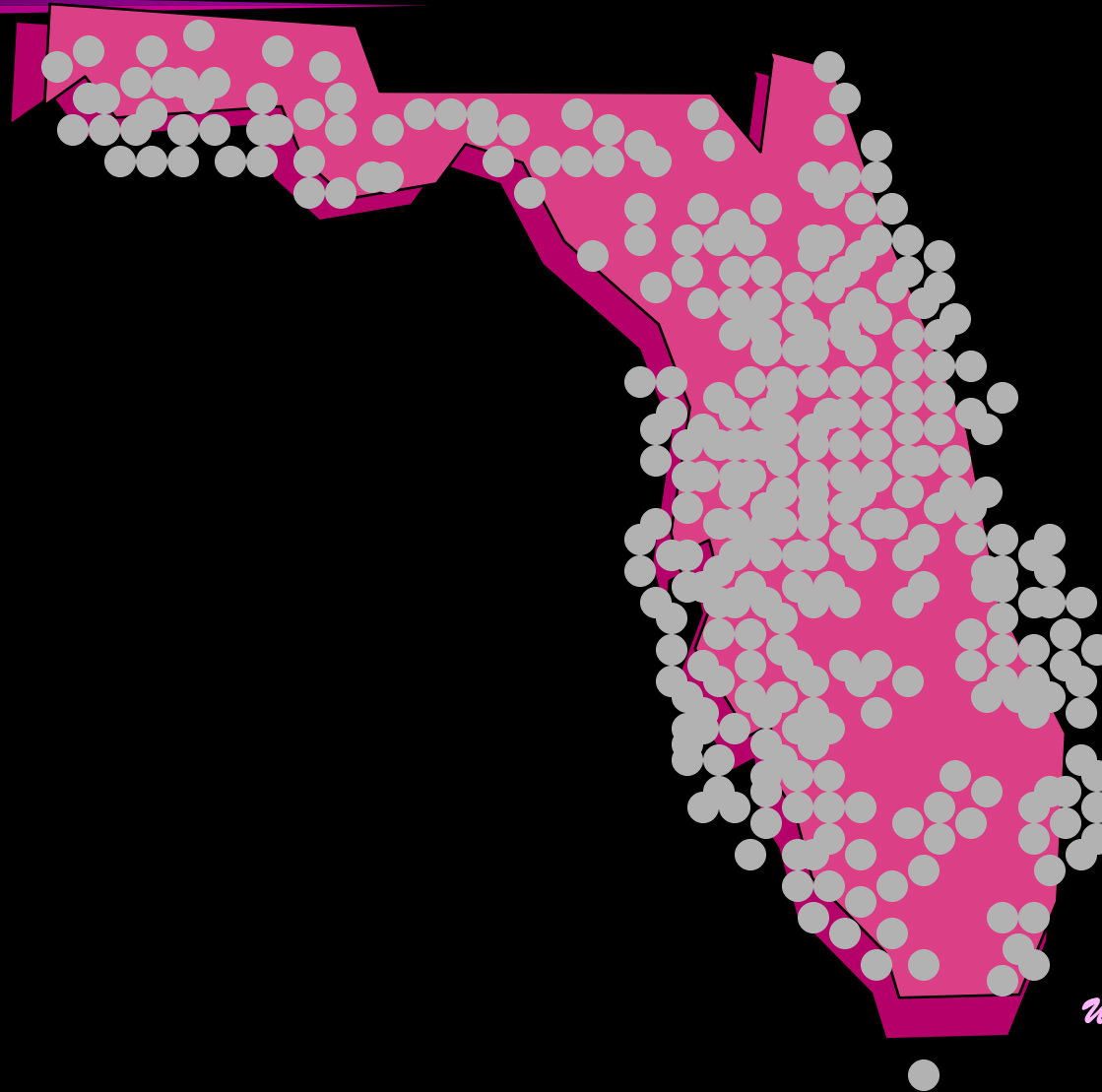


Reuse Capacity (MGD)



Use it Again, America!

Reuse Projects



Use it Again, America!

2005 Reuse Facts



- **465 WWTPs**
- **Capacity = 1,325 MGD**
 - ◆ **About 58 % of All WWTP Capacity**
- **660 MGD Reused**
 - ◆ **About 41 % of All Treated Wastewater**

Use it Again, America!

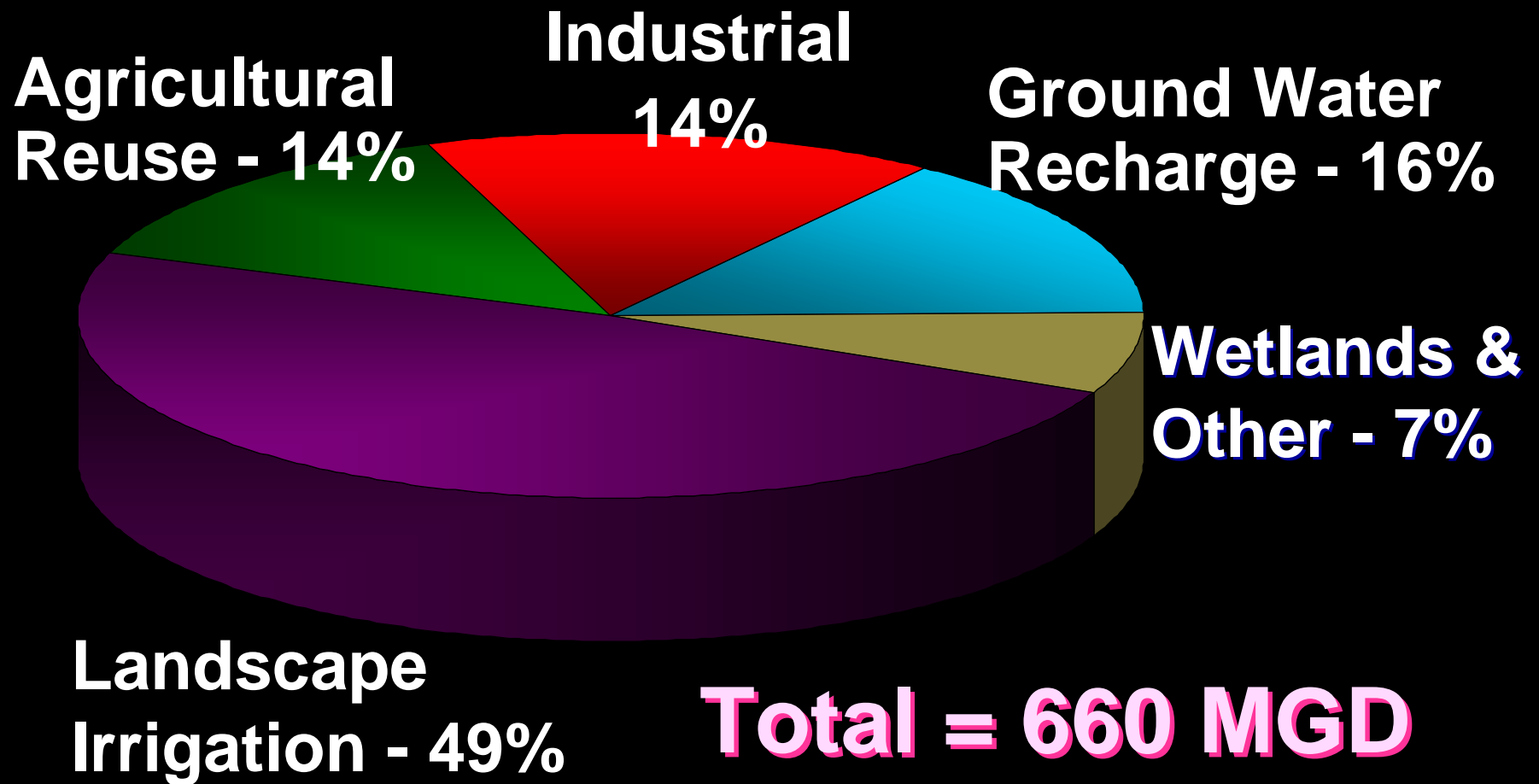
2005 Reuse Facts

- **201,465 Residences**
- **462 Golf Courses**
- **572 Parks**
- **251 Schools**



Use it Again, America!

2005 Reuse Flow



Use it Again, America!

St. Petersburg



Altamonte Springs



- **Project APRICOT**
- **5,800 Homes**
- **Hose Bibbs**
- **Car Wash**



Cape Coral

- 33,000 Homes
- World's Largest
- Add Canal Water



Cooling Towers



- **Orlando**
- **St. Petersburg**
- **Vero Beach**
- **Lakeland**
- **Others**

Other Uses

Toilet Flushing

**Fire
Protection**



Stadiums



West Palm Beach



- **Indirect Potable Reuse**
- **Wetlands Based**
- **Recharge Ground Water**
- **Recover Ground Water**
- **Augment Surface Water Supplies**

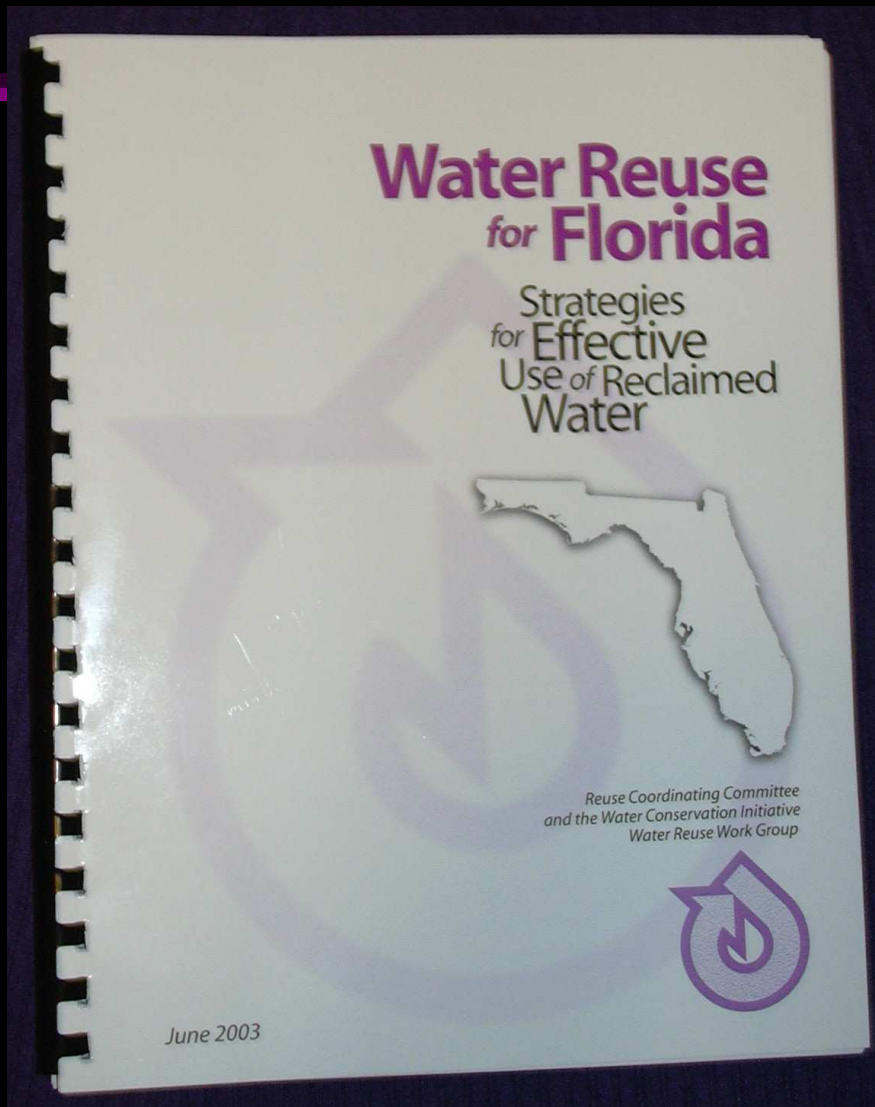
Looking to the

Future



Water Conservation Initiative






■ **June 2003**

■ **Program
Summary**

■ **16 Strategies**

Use it Again, America!

- 
- **Increase Efficiency**
 - ◆ **Potable Water Offset**
 - ◆ **Recharge Fraction**
 - **To Conserve Water**
 - **To Augment Supplies**

High Desirability

- **Ground Water Recharge**
- **Indirect Potable Reuse**
- **Industrial Uses (include Cooling Water)**
- **Toilet Flushing**
- **Efficient Irrigation**
- **Vehicle Washing**
- **Laundries**



Use it Again, America!

Strategy No. 1

**Encourage Metering &
Volume-Based Rates**

Strategy No. 2

**Implement Viable
Funding Programs**

Strategy No. 4

**Use Reclaimed Water
in Lieu of Other
Water Sources**

Strategy No. 7

**Encourage Ground
Water Recharge &
Indirect Potable Reuse**

Strategy No. 16

**Ensure Continued
Safety of Water
Reuse**

More People

- **Growth in Coastal & Orlando Areas**
- **More Wastewater**
- **Increased Water Demands**

More Efficient & Effective Reuse

Use it Again, America!

A blue and white beach ball is shown floating in the ocean, with water splashing around it. The text "Use it Again, Florida!" is written in a red, cursive font across the center of the image.

*Use it Again,
Florida!*

A beach ball with alternating blue and white segments is shown floating in the ocean. The water is a deep blue, and there are white, frothy waves breaking around the ball. The scene is captured from a slightly elevated angle, showing the top of the ball and the surrounding water. Overlaid on the lower half of the image is the text "Use it Again, Maryland!" in a vibrant red, cursive script. The text is slanted upwards from left to right, following the curve of the beach ball. The overall composition suggests a message of sustainable tourism or responsible travel in Maryland.

*Use it Again,
Maryland!*



*Use it Again,
America!*

2007 WateReuse Symposium

- Tampa – Sept. 9-12, 2007
- WateReuse Association
 - ◆ AWWA & WEF
- www.watereuse.org

***Water Reuse & Desalination
Bright as the Florida Sun***





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Use it Again, America!